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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,701	CHEN ET AL.	
	Examiner	Art Unit	
	JAE Y. LEE	2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-19,24,26-28 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-19,24,26-28 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 July 2009 has been entered.

Response to Amendment

2. Claims 1-10, 20-23, 25, and 29 have been canceled.

3. Claim 30 has been added.

Response to Arguments

4. Applicant's arguments with respect to claims 11-19, 24, 26-28, 30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

5. Claims 11, 18, 24, 28, 30 are objected to under 37 CFR 1.75 because of the following informalities:

Claim 11 lines 28-29 recites "the hop-by-hop extension header a source home address". It is suggested that applicant changes "the hop-by-hop extension header a

source home address" to -- the hop-by-hop extension header including a source home address –

Claim 18 lines 29-30 recites "the hop-by-hop extension header a source home address". It is suggested that applicant changes "the hop-by-hop extension header a source home address" to -- the hop-by-hop extension header including a source home address –

Claim 24 lines 25-26 recites "the hop-by-hop extension header a source home address". It is suggested that applicant changes "the hop-by-hop extension header a source home address" to -- the hop-by-hop extension header including a source home address –

Claim 28 lines 20-21 recites "the hop-by-hop extension header a source home address". It is suggested that applicant changes "the hop-by-hop extension header a source home address" to -- the hop-by-hop extension header including a source home address –

Claim 30 lines 29-30 recites "the hop-by-hop extension header a source home address". It is suggested that applicant changes "the hop-by-hop extension header a source home address" to -- the hop-by-hop extension header including a source home address –

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-19, 24, 26-28, 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 11, "the home address (line 31)" is indefinite. One cannot determine which of home address among "a home address of a mobile node (line 14)" and "a source home address of a mobile correspondent node (line 29)." For purposes of further examination, Examiner assumes the home address is the source home address of a mobile.

For claim 11, " detecting ... a source home address (lines 28-29), using the home address ... for communicating the internet packets to a correspondent node attached to the packet radio network (lines 31-32), and allowing ingress of the internet packet (line 33)" is recited. It is not clear that how to allow the ingress of internet upon detecting the (source) home address of the correspondent node rather than destination address because the packet is transmitted to a packet radio network from an external packet data communication network. Examiner assumes the home address is the destination address of a mobile correspondent node.

Claims 18, 24, 28, 30 referred by claim 11 are rejected based on the same reasons described above.

Claims 1-17, 19, 26, 27 are also rejected based upon the rejection of base claims 11, 18, 24, 28, 30.

Claims 1-17, 26, 27, and 30 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 11-19, 24, 26-28, 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne et al. (US 6,845,100) in view of Goyal et al. (US 6,466,985) and Lee et al. (US 6,915,325)

For claims 11, 18, Rinne discloses a system and a method comprising:

- a gateway support node (Fig. 3 3G-SGSN, 3G-GGSN) operable to provide an interface between an external packet data communications network (Fig. 3 data network (Internet)) and a packet radio network (Fig. 3 RNC), the packet radio network (Fig. 3 RNC) providing a plurality of packet data bearers (col 8 lines 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes) for communicating the internet packets with nodes attached to the packet radio network each of the packet data bearers (Fig. 3 RNC, UEs; col 8 lines 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes) being defined with respect to a source home address of nodes communicating the internet packets (col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address), the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN) being arranged to receive an internet packet comprising a header field, the header field including a field identifying a source address of the internet packet, a field identifying the destination address of the internet packet (col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source

and destination host address) and a next header field identifying whether an extension header follows the header and a type of the extension header, the next header field identifying that the extension header includes a hop-by-hop extension header (Fig. 11 next header, type; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc., lines 5-12: next header field in the IP v6 header packet that is used to indicate which header follows the IP header when other applications want to piggyback on the IP header; col 15 lines 12-16: type), and value field indicating that the remainder of the hop-by-hop header is provided for the gateway support node, the remainder of the hop-by-hop header extension header (Fig. 6 Hop-by-hop options header, IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address), the gateway support node being operable upon receipt of the internet packet (Fig. 3 3G-SGSN, 3G-GGSN; col 8 lines 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes; col5)

- to detect that the next header field of the internet packet includes a hop-by-hop extension header (Fig. 11 IPv6 Extension Headers, Hop-by-hop options header, Next Hdr; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header,

flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc), and

- to detect the hop-by-hop extension header (Fig. 11 IPv6 Extension Headers, Hop-by-hop options header, Next Hdr; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc), and the value field indicating that the remainder of the hop-by-hop extension header is provided for the gateway support node, and upon detecting the value field indicating that the remainder of the hop-by-hop extension header field (Fig. 11 value; col 15 lines 11-18: the options included in the hop-by-hop extension have a standard format of a type value, length and a value) is for the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN)
- to recover information from a field provided in the remainder of the hop-by-hop extension header for use in controlling egress and/or ingress of internet packets to the packet radio network in accordance with the information (Fig. 6 Hop-by-hop options header, IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address; Fig. 5; col 8 lines 33-35: the packets are transferred by the MAC layer to the physical layer for transmission over the radio interface Uu of Fig. 3; col 8 lines 55-61: classified

packets are provided by QoS classifier to various RNC buffers according to the differing classes and according to the various destination addresses), wherein

- the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN)
- controls ingress of internet packets (Fig. 4A, 4B; col 8 lines 25-26: QoS classification process may take place in the 3G GGSN; 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes) from the external communications network (Fig. 3 data network (Internet)) to the packet data bearers of the packet radio network (Fig. 3 RNC), by
- detecting from the information field provided in the remainder of the hop-by-hop extension header (Fig. 6 IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address) a source home address of a correspondent node communicating the internet packets (col 7 lines 49-55: combination of packet classifier and the QoS classifier residing in the UTRAN or CN can be used to classify packets destined for various bearers of various mobile terminal according to differing classes, 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address),

- using the home address to identify the packet data bearer for communicating the internet packets to a correspondent node attached to the packet radio network (Fig. 3 RNC, UEs; col 7 lines 49-55: combination of packet classifier and the QoS classifier residing in the UTRAN or CN can be used to classify packets destined for various bearers of various mobile terminal according to differing classes, 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address; col 7 line 63-col 8 line 2: mapping to the PDP context made on a flow basis and several PDP context with the different kinds of QoS profiles using the same PDP address; Fig. 5; col 8 lines 55-61: classified packets are provided by QoS classifier to various RNC buffers according to the differing classes and according to the various destination addresses), and
- allowing ingress of the internet packets to the identified packet data bearer (col 8 lines 33-35: the packets are transferred by the MAC layer to the physical layer for transmission over the radio interface Uu of Fig. 3).

Rinne discloses all the subject matter of the claimed invention with the exception for the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read. Goyal discloses the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read (col 5 lines 29-35: hop-by-hop router alert extension can be used although additional extension headers are possible as well; col 10 lines 20-21: router alert option (an extension header in IPv6).

Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read of Goyal to the system and the method of Rinne. The motivation would have been to optimize the transport network for IPv6 by supporting IPv6 routing (Goyal col 4 lines 41-42).

Rinne and Goyal disclose all the subject matter of the claimed invention with the exception for a field providing a home address of a mobile node. Lee discloses a field providing a home address of a mobile node (col 3 lines 55-57: tunnels may be formed that avoid the home agent for more directly communicating with the mobile node; col 6 lines 66-col 7 line 11: the correspondent agent can tunnel the data to the mobile node's care-of address by changing the IP destination address from the mobile node's home address to the care-of address at the correspondent agent and restoring the IP destination address to the mobile node's home address at the foreign agent). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate a field providing a home address of a mobile node of Lee to the system and the method of Rinne and Goyal. The motivation would have been to facilitate wireless communications when mobile node moves away from home domain.

For claim 16 referenced by claim 11, Rinne discloses a packet radio network operable to communicate internet packets between an external packet data network (Fig. 3 data network (Internet)) and nodes (Fig 3 UEs) associated with the packet radio

network (Fig. 3 RNC), the packet radio network providing a plurality of packet data bearers for communicating the internet packets to and/or from the nodes attached to the packet radio network, the packet radio network including a gateway support node (Fig. 3 RNC, UEs, 3G-SGSN, 3G-GGSN; col 8 lines 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes).

For claims 24, referenced by claim 18, Rinne and Goyal disclose all the subject matter of the claimed invention with the exception for computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor. Lee discloses computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor (col 9 lines 9-43). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor of Lee to the system of Rinne and Goyal. The motivation would have been to enable the computer program to run in the system of Rinne and Goyal.

For claim 30 referenced by claim 11, Rinne discloses IPv6 extension header (Fig. 11 IPv6 Extension Headers).

For claim 12, Rinne discloses

- the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN) allowing ingress of the internet packets (col 8 lines 33-35: the packets are transferred by the MAC layer

to the physical layer for transmission over the radio interface Uu of Fig. 3) if either the address in the source address field of the internet packet (col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address) or the address provided in the field in hop-by-hop extension header for the gateway support node corresponds to a packet data bearer (Fig. 6 Hop-by-hop options header, IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 49-55: combination of packet classifier and the QoS classifier residing in the UTRAN or CN can be used to classify packets destined for various bearers of various mobile terminal according to differing classes; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address; Fig. 5; col 8 lines 33-35: the packets are transferred by the MAC layer to the physical layer for transmission over the radio interface Uu of Fig. 3; col 8 lines 55-61: classified packets are provided by QoS classifier to various RNC buffers according to the differing classes and according to the various destination addresses)

For claims 13, 19, 26, Rinne discloses

- the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN) receives the internet packet from the plurality of packet data bearers (Fig. 3; col 8 lines 49-55:

classifying packets destined for various bearers of various mobile terminals according to differing classes)

- detecting from the information data provided in the hop-by-hop extension header field for the gateway support node a destination home address of a mobile correspondent node which is to be the destination of the internet packets (Fig. 6; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address)

Rinne and Goyal disclose all the subject matter of the claimed invention with the exception for egress packet filtering in accordance with a destination address of the internet packets, egress of the internet packets being allowed for internet packets having a legitimate destination address, and upon receipt of the internet packet and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address. Lee discloses a egress packet filtering in accordance with a destination address of the internet packets (col 7 lines 22-25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the data according to the filter) and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address (col 7 lines 22-

25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the data according to the filter; col 4 lines 17: message traveling through the tunnel; the message travels through the tunnel only if matching the criteria of firewall). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate egress packet filtering in accordance with a destination address of the internet packets, egress of the internet packets being allowed for internet packets having a legitimate destination address, and upon receipt of the internet packet and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address of Lee to the system and the method of Rinne and Goyal. The motivation would have been to enhance the reliability of wireless communication by filtering message based on the destination.

For claims 14, 27, Rinne discloses

- the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN)
- the address provided in the hop-by-hop extension header for the gateway support node is a legitimate destination address (Fig. 6; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address)

Rinne and Goyal disclose all the subject matter of the claimed invention with the exception for allowing egress of the internet packets if either the address in the destination address field of the packet. Lee discloses allowing egress of the internet packets if either the address in the destination address field of the packet (col 7 lines 22-25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the data according to the filter; col 4 lines 17: message traveling through the tunnel; the message travels through the tunnel only if matching the criteria of firewall). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate allowing egress of the internet packets if either the address in the destination address field of the packet of Lee to the system and the method of Rinne and Goyal. The motivation would have been to enhance the reliability of wireless communication by filtering message based on the destination.

For claim 15, Rinne discloses

- the gateway support node comprises a Gateway GPRS Support Node (GGSN), according to the General Packet Radio System standard (Fig. 3 3G-SGSN, 3G-GGSN, 3G-Gateway GPRS Support Node)

For claim 17, Rinne discloses

- the packet radio network (Fig. 3 RNC) complies with General Packet Radio System (GPRS) standard, the gateway support node comprising a Gateway GPRS Support Node (GGSN) (Fig. 3 3G-SGSN, 3G-GGSN, 3G-Gateway GPRS Support Node)

For claims 11, 18, Rinne discloses a system and a method comprising:

- receiving an internet packet comprising a header field, the header field including a field identifying a source address of the internet packet, a field identifying the destination address of the internet packet (col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address) and a next header field identifying whether an extension header follows the header and a type of the extension header, the next header field identifying that the extension header includes a hop-by-hop extension header (Fig. 11 next header, type; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc., lines 5-12: next header field in the IP v6 header packet that is used to indicate which header follows the IP header when other applications want to piggyback on the IP header; col 15 lines 12-16: type), and value field indicating that the remainder of the hop-by-hop header is provided for the gateway support node, the remainder of the hop-by-hop header extension header (Fig. 6 Hop-by-hop options header, IPv6 header; col 15 lines 2-5:IP packet according to IPv6

including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address), the gateway support node being operable upon receipt of the internet packet (Fig. 3 3G-SGSN, 3G-GGSN; col 8 lines 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes; col5)

- detecting that the next header field of the internet packet includes a hop-by-hop extension header (Fig. 11 IPv6 Extension Headers, Hop-by-hop options header, Next Hdr; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc), and
- detecting the hop-by-hop extension header (Fig. 11 IPv6 Extension Headers, Hop-by-hop options header, Next Hdr; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc), and the value field indicating that the remainder of the hop-by-hop extension header is provided for the gateway support node, and upon detecting the value field indicating that the remainder of the hop-by-hop extension header field (Fig. 11 value; col 15 lines 11-18: the options included in the hop-by-hop extension have a standard format of a type value, length and a value) is for the gateway support node (Fig. 3 3G-SGSN, 3G-GGSN)

- recovering information from a field provided in the remainder of the hop-by-hop extension header for use in controlling egress and/or ingress of internet packets to the packet radio network in accordance with the information (Fig. 6 Hop-by-hop options header, IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address; Fig. 5; col 8 lines 33-35: the packets are transferred by the MAC layer to the physical layer for transmission over the radio interface Uu of Fig. 3; col 8 lines 55-61: classified packets are provided by QoS classifier to various RNC buffers according to the differing classes and according to the various destination addresses)
- wherein, the controlling ingress of internet packets (Fig. 4A, 4B; col 8 lines 25-26: QoS classification process may take place in the 3G GGSN; 49-55: classifying packets destined for various bearers of various mobile terminals according to differing classes) from the external communications network (Fig. 3 data network (Internet)) to the packet data bearers of the packet radio network (Fig. 3 RNC), by
- detecting from the information field provided in the remainder of the hop-by-hop extension header (Fig. 6 IPv6 header; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-

63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address) a source home address of a correspondent node communicating the internet packets (col 7 lines 49-55: combination of packet classifier and the QoS classifier residing in the UTRAN or CN can be used to classify packets destined for various bearers of various mobile terminal according to differing classes, 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address),

- using the home address to identify the packet data bearer for communicating the internet packets to a correspondent node attached to the packet radio network (Fig. 3 RNC, UEs; col 7 lines 49-55: combination of packet classifier and the QoS classifier residing in the UTRAN or CN can be used to classify packets destined for various bearers of various mobile terminal according to differing classes, 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address; col 7 line 63-col 8 line 2: mapping to the PDP context made on a flow basis and several PDP context with the different kinds of QoS profiles using the same PDP address; Fig. 5; col 8 lines 55-61: classified packets are provided by QoS classifier to various RNC buffers according to the differing classes and according to the various destination addresses), and

- allowing ingress of the internet packets to the identified packet data bearer (col 8 lines 33-35: the packets are transferred by the MAC layer to the physical layer for transmission over the radio interface Uu of Fig. 3), and
- detecting from the information data provided in the hop-by-hop extension header field for the gateway support node a destination home address of a mobile correspondent node which is to be the destination of the internet packets (Fig. 6; col 15 lines 2-5:IP packet according to IPv6 including IPv6 header, flowed by optional IPv6 extension headers, followed by other headers, e.g., PCP, UDP, RTP, application headers, etc; col 7 lines 57-63: IP packets from an IP network comprising several different flows having a combination of the source and destination host address)

Rinne discloses all the subject matter of the claimed invention with the exception for the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read. Goyal discloses the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read (col 5 lines 29-35: hop-by-hop router alert extension can be used although additional extension headers are possible as well; col 10 lines 20-21: router alert option (an extension header in IPv6). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate the hop-by-hop extension header including a router alert option header indicating that the hop-by-hop extension header is optional for a router to read of Goyal to the system and the method of Rinne. The motivation would

have been to optimize the transport network for IPv6 by supporting IPv6 routing (Goyal col 4 lines 41-42).

Rinne and Goyal disclose all the subject matter of the claimed invention with the exception for computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor, a field providing a home address of a mobile node, egress packet filtering in accordance with a destination address of the internet packets, egress of the internet packets being allowed for internet packets having a legitimate destination address, and upon receipt of the internet packet and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address. Lee discloses computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor (col 9 lines 9-43), a field providing a home address of a mobile node (col 3 lines 55-57: tunnels may be formed that avoid the home agent for more directly communicating with the mobile node; col 6 lines 66-col 7 line 11: the correspondent agent can tunnel the data to the mobile node's care-of address by changing the IP destination address from the mobile node's home address to the care-of address at the correspondent agent and restoring the IP destination address to the mobile node's home address at the foreign agent), a egress packet filtering in accordance with a destination address of the internet packets (col 7 lines 22-25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the

data according to the filter) and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address (col 7 lines 22-25: filtering to match the mobile node home address and translating the IP destination address to the care-of address, 25-28: correspondent agent receiving data addressed to the mobile, existing firewall functions will match and translate the data according to the filter; col 4 lines 17: message traveling through the tunnel; the message travels through the tunnel only if matching the criteria of firewall). Therefore, it would have been obvious to the person of ordinary skill in the art at the time of invention was made to incorporate computer readable memory device comprising computer executable instructions forming a computer program to be executed by a data processor, a field providing a home address of a mobile node, egress packet filtering in accordance with a destination address of the internet packets, egress of the internet packets being allowed for internet packets having a legitimate destination address, and upon receipt of the internet packet and allowing egress of the internet packets if the gateway support node recognizes the destination home address as a legitimate home address of Lee to the system and the method of Rinne and Goyal. The motivation would have been to enhance the reliability of wireless communication by filtering message based on the destination.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Y. Lee whose telephone number is (571) 270-3936.

The examiner can normally be reached on Monday through Friday from 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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